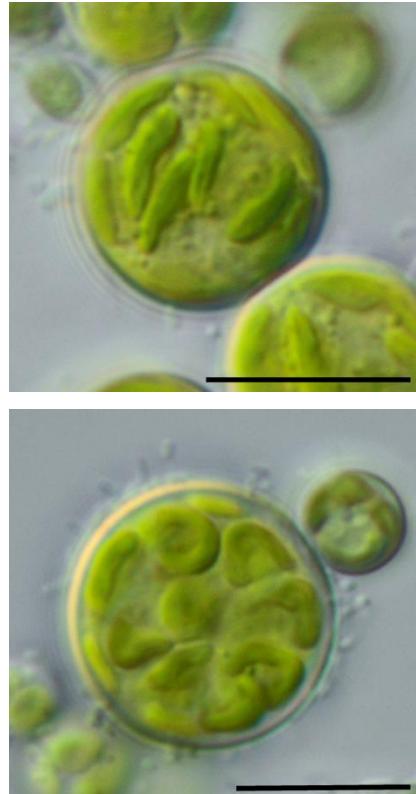
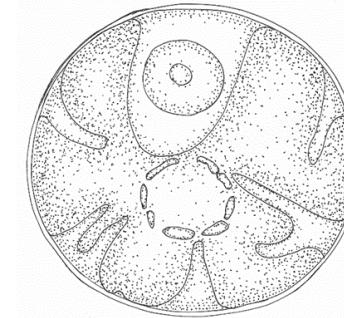
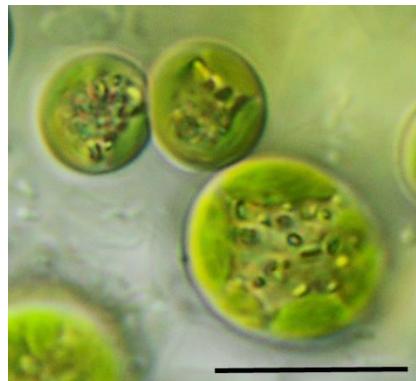
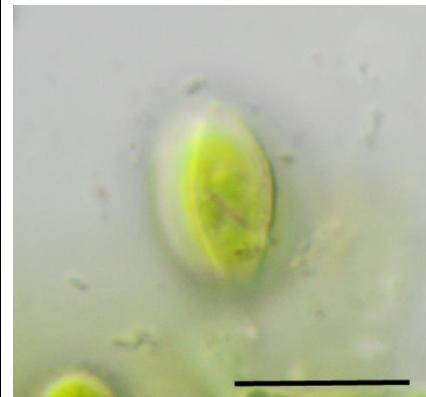
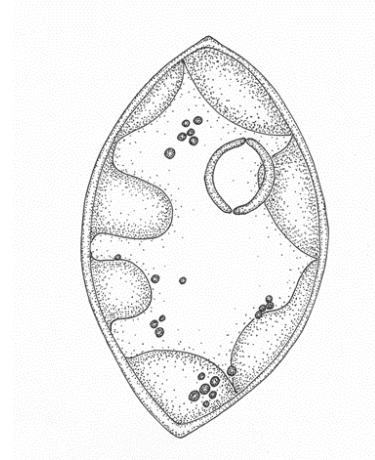


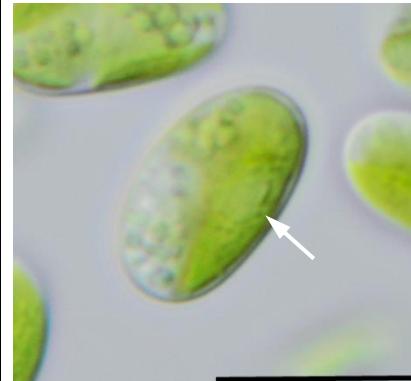
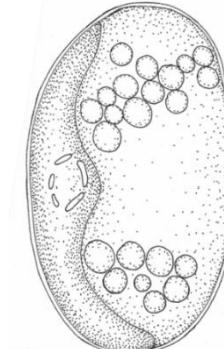
Table S1: Algae catalogue. Species list of algae and summary of several information about every identified species. x: presence of the species, black arrow: nucleus, white arrow: pyrenoid, grey arrow: stigma, bar: 10 µm

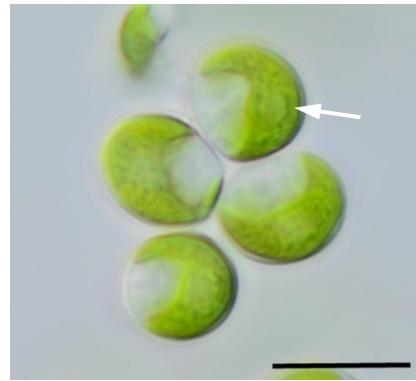
species	former name	light micrograph	drawing	reference	NA	LB	isolate number
Chlorophyceae							
<i>Bracteacoccus aggregatus</i>				Fucikova, K., Flechtner, V. R. and Lewis, L. A. (2012) Ettl, E. and Gärtner, G. (2014)	x		

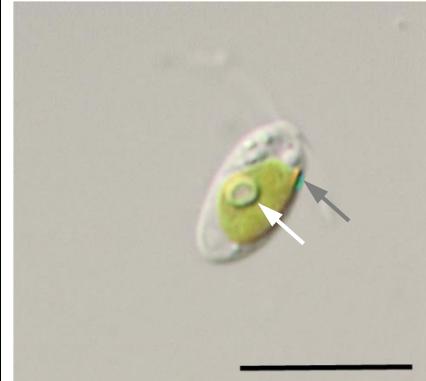
<i>Bracteacoccus</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		Geo-5a Geo-5b
<i>Chlamydomonas</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	ADC-6a ADC-6b ADC-6c Björn- 6a
<i>Chlorococcum lobatum</i>				Ettl, E. and Gärtner, G. (2014)		x	
<i>Chlorococcum</i> cf. <i>minutum</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Chlorococcum</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		D-S-4a London- 4a London- 4b London- 4c

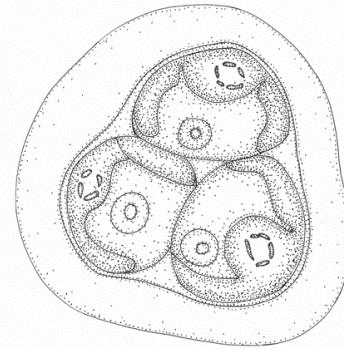
<i>Chloromonas</i> sp.			Ettl, E. and Gärtner, G. (2014)		x	x	ADC-8a
<i>Chromochloris</i> <i>zofingiensis</i>	<i>Muriella</i> <i>zofingiensis</i> , <i>Bracteacoccus</i> <i>minutus</i>		Fucikova, K. and Lewis, L. A. (2012) Ettl, E. and Gärtner, G. (2014)		x		
<i>Coelastrella</i> <i>aeroterrestrica</i>			Tschaikner, A., Gärtner, G. and Kofler, W. (2008)		x	x	

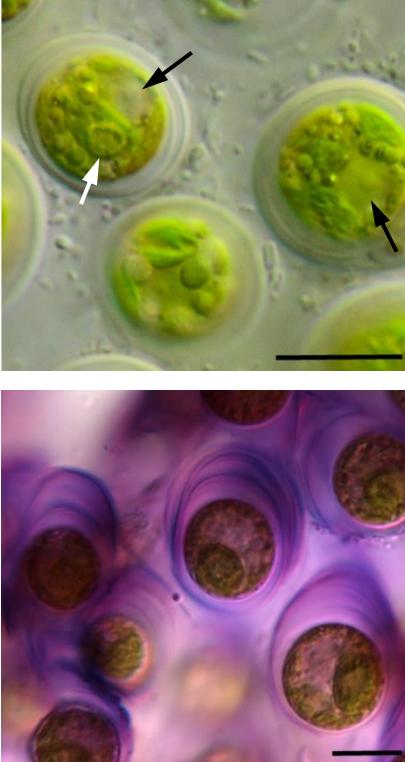
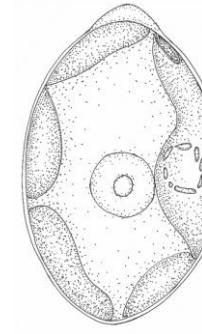
<i>Coelastrella rubescens</i>	<i>Scotiellopsis rubescens</i>	 		Kaufnerova, V. and Elias, M. (2013) Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Coelastrella cf. rubescens</i>				Kaufnerova, V. and Elias, M. (2013) Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Coelastrella</i> sp.	<i>Scotiellopsis</i> sp.			Kaufnerova, V. and Elias, M. (2013)		x	

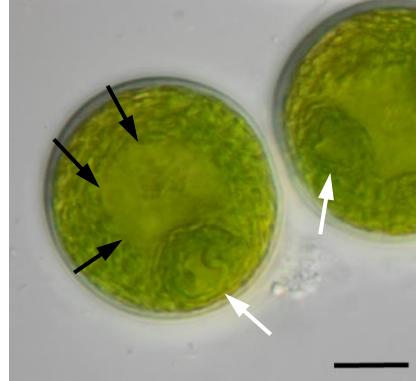
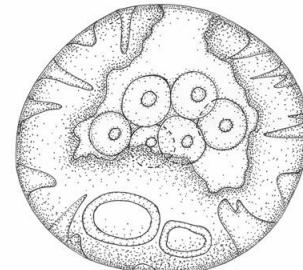
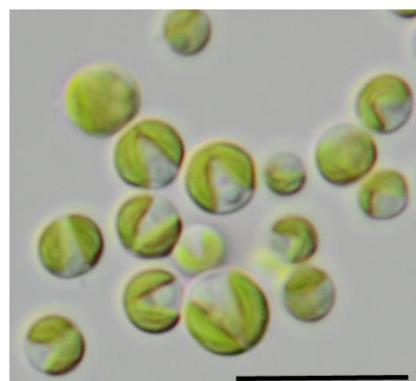
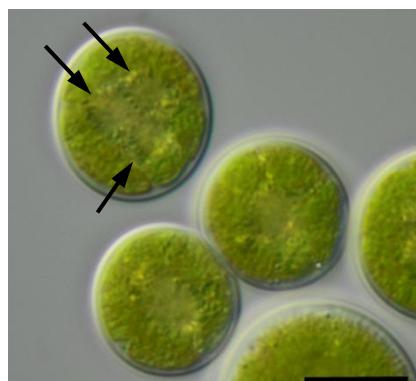
				Ettl, E. and Gärtner, G. (2014)			
<i>Coenobotrys cf. gloeobotrydiformis</i>	<i>Coccomyxa gloeobotrydiformis</i>			Kostikov, I. et al. (2002) Ettl, E. and Gärtner, G. (2014)	x		
<i>Coenochloris</i> sp.	<i>Radiococcus</i> sp.			Kostikov, I. et al. (2002) Ettl, E. and Gärtner, G. (2014)	x		
<i>Coenocystis oleifera</i> var. <i>antarctica</i>	<i>Sphaerocystis oleifera</i> var. <i>antarctica</i>			Ettl, E. and Gärtner, G. (2014)	x	x	

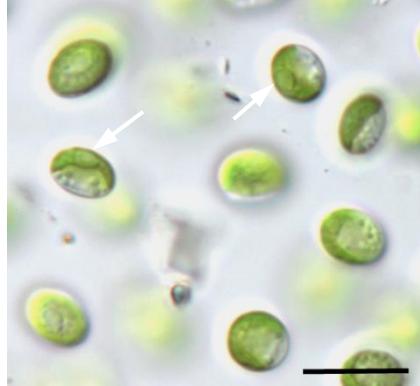
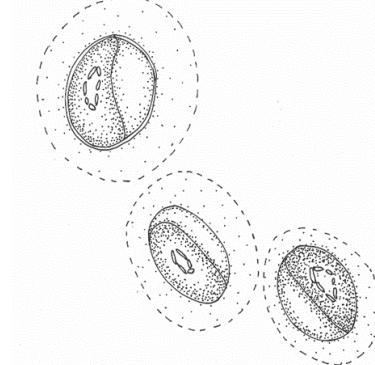
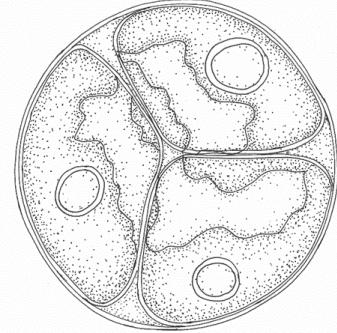
<i>Desmodesmus abundans</i>	<i>Chlorella fusca</i>	 	Kessler, E. et al. (1997) Ettl, E. and Gärtner, G. (2014)	x	x		
<i>Fasciculochloris cf. boldii</i>			Ettl, E. and Gärtner, G. (2014)		x		

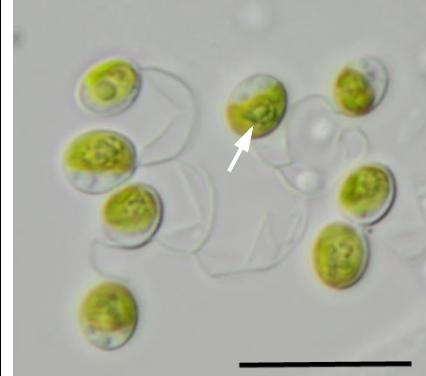
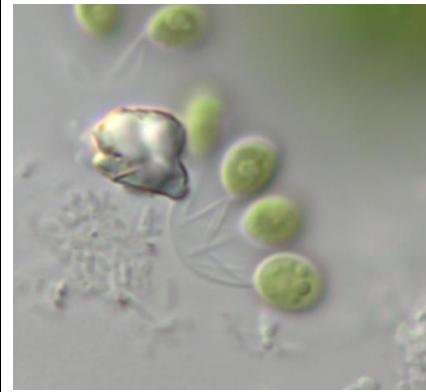
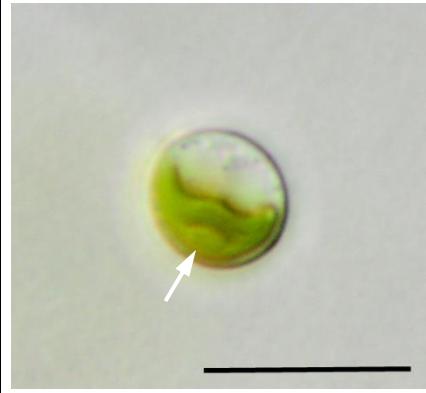
<i>Gloeocystis</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	EiE-2a
<i>Gungnir mantoniae</i>	<i>Chlamydomonas</i> <i>mantonii</i>	 		Nakada, T., Nozaki, H., and Pröschold, T. (2008) Ettl, E. and Gärtner, G. (2014)		x	SH-Kj- 38a

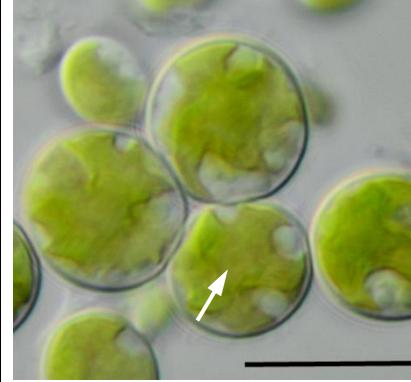
<i>Heterotetracystis akinetos</i>				Ettl, E. and Gärtner, G. (2014)		x	Berg-3a
<i>Heterotetracystis intermedia</i>				Ettl, E. and Gärtner, G. (2014)	x		

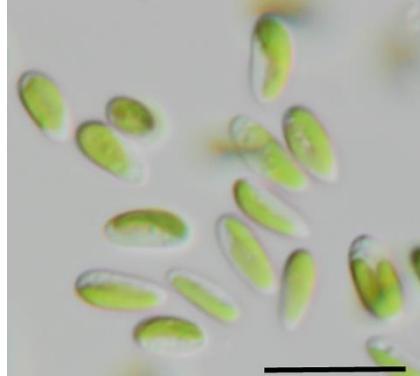
<i>Hormotilopsis</i> sp.			Ettl, E. and Gärtner, G. (2014)		x		
<i>Lobochlamys</i> cf. <i>culleus</i>	<i>Chlamydomonas</i> <i>culleus</i>			Pröschold, T. et al. (2001) Ettl, E. and Gärtner, G., (2014)	x	x	
<i>Lobochlamys</i> sp.				Pröschold, T. et al. (2001)		x	

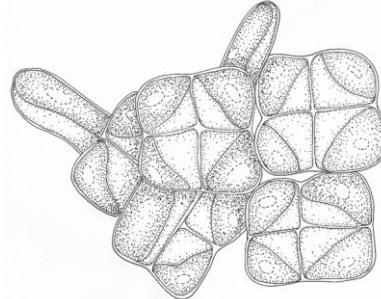
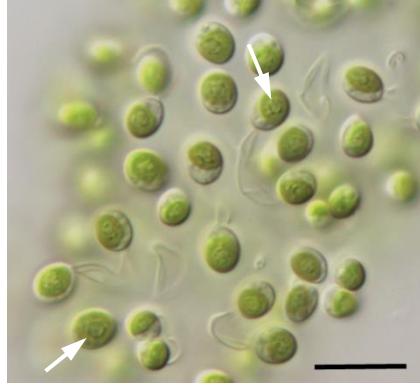
<i>Macrochloris cohaerens</i>				Ettl, E. and Gärtner, G., (2014)	x		NA-18aII
<i>Mychonastes homosphaera</i>	<i>Chlorella homosphaera</i> , <i>Chlorella miniata</i> , <i>Chlorella minutissima</i>			Huss, V. et al. (1999) Bock, C. et al. (2011) Ettl, E. and Gärtner, G. (2014)	x	x	D-S-34a Hinter- 34a Hinter- 34b
<i>Pseudodictyochloris multinucleata</i>				Ettl, E. and Gärtner, G. (2014)	x	x	

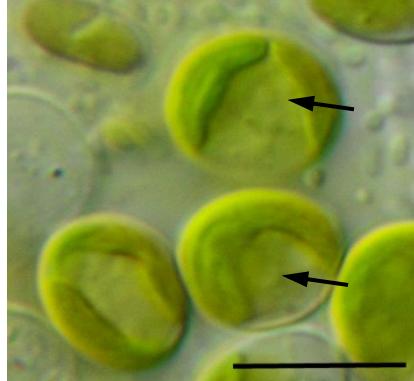
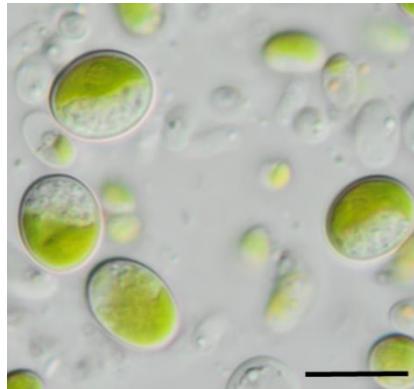
<i>Sporotetras polydermata</i>	<i>Gloeocystis polydermata</i>			Kostikov, I. et al. (2002) Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Tetracystis cf. fissurata</i>				Ettl, E. and Gärtner, G. (2014)	x		NA-33a
<i>Tetracystis</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	London- 27a
<i>Uvulifera</i> sp.	<i>Coccobotrys</i> sp.			Molinari- Novoa, E. A. (2016) Ettl, E. and Gärtner, G. (2014)	x		

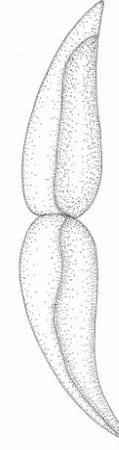
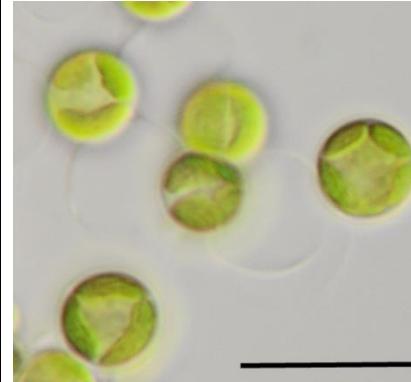
<i>Trebouxiophyceae</i>							
<i>Chlorella chlorelloides</i>	<i>Dictyosphaerium chlorelloides</i>	 		Bock, C. et al. (2011) Ettl, E. and Gärtner, G. (2014)		x	
<i>Chlorella vulgaris</i>				Ettl, E. and Gärtner, G. (2014)	x	x	SH-Kj-39a

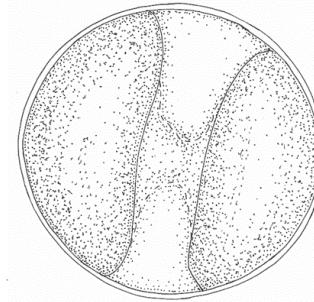
<i>Chlorella cf. vulgaris</i>				Ettl, E. and Gärtnner, G. (2014)	x	x	
<i>Chlorella</i> sp.				Ettl, E. and Gärtnner, G. (2014)	x	x	London-35a London-35b
<i>Chloroidium ellipsoideum</i>	<i>Chlorella ellipsoidea</i>			Darienko, T. et al. (2010) Ettl, E. and Gärtnner, G. (2014)	x	x	
<i>Chloroidium</i> sp.				Darienko, T. et al. (2010)	x		NA-31aII

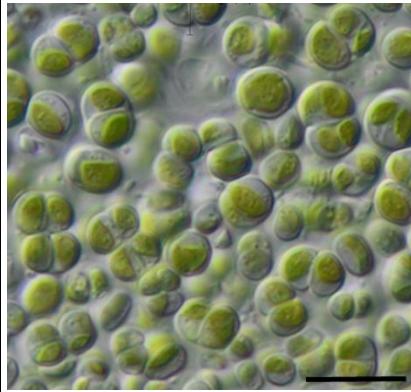
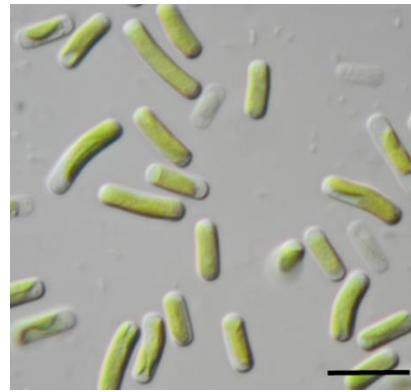
<i>Coccomyxa simplex</i>			Ettl, E. and Gärtner, G. (2014) Darienko, T. et al. (2015) Malavasi, V. et al. (2016)	x	x	
<i>Coccomyxa subglobosa</i>			Ettl, E. and Gärtner, G. (2014) Darienko, T. et al. (2015) Malavasi, V. et al. (2016)	x		
<i>Coccomyxa</i> sp.			Ettl, E. and Gärtner, G. (2014) Darienko, T. et al. (2015) Malavasi, V. et al. (2016)	x	x	

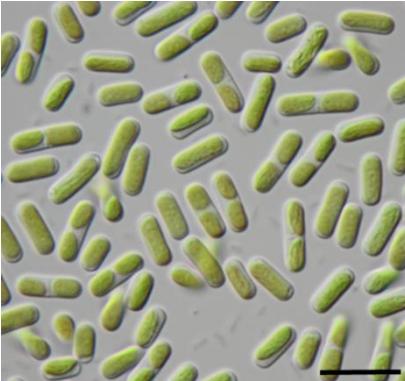
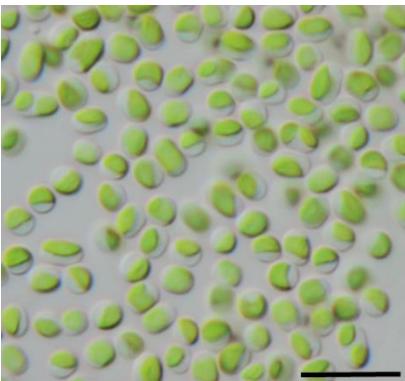
<i>Desmococcus olivaceus</i>				Ettl, E. and Gärtner, G. (2014)	x	x	EiE-7a NA-10aII
<i>Desmococcus</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		
<i>Dictyosphaerium dichotomum</i>				Bock, C., Pröschold, and T., Krienitz, L. (2011) Ettl, E. and Gärtner, G. (2014)		x	

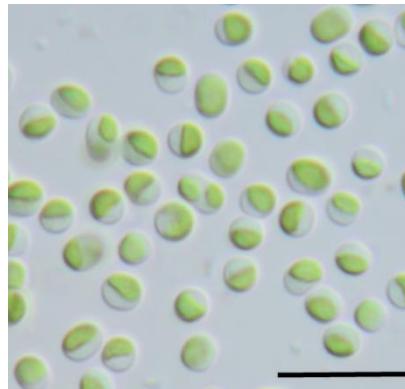
<i>Elliptochloris bilobata</i>				Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Elliptochloris subsphaerica</i>				Darienko, T. et al. (2016)	x		
<i>Elliptochloris</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		
<i>Gloeotila scopulina</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Heterochlorella luteoviridis</i>	<i>Chlorella luteoviridis</i>			Neustupa, J. et al. (2009)	x		

				Ettl, E. and Gärtner, G. (2014)			
<i>Koliella sempervirens</i>	<i>Raphidonema sempervirens</i>			Ettl, E. and Gärtner, G. (2014)	x		NA- 23aII
<i>Muriella terrestris</i>				Ettl, E. and Gärtner, G. (2014)	x		London- 36a
<i>Muriella</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		D-S-30a D-S-30b D-S-30c
<i>Muriella</i> sp. I (Broady)				Ettl, E. and Gärtner, G. (2014)	x		

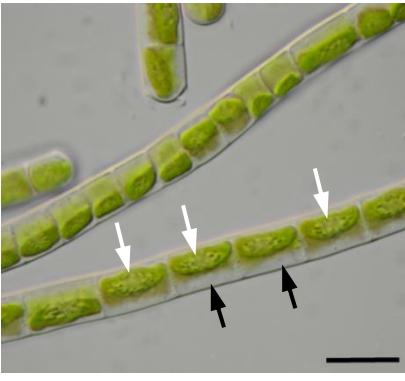
<i>Myrmecia bisecta</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Myrmecia</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		
<i>Neocytis</i> cf. <i>brevis</i>	<i>Coccomyxa brevis</i> , <i>Nephrodiella brevis</i>			Elias, M. et al. (2013) Ettl, E. and Gärtner, G. (2014)	x	x	Börn- 29a
<i>Neocystis</i> sp.				Elias, M. et al. (2013) Ettl, E. and Gärtner, G. (2014)	x		

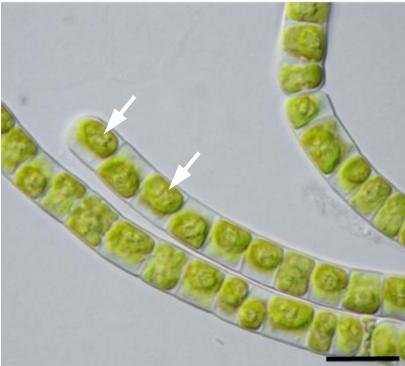
<i>Parachlorella cf. kessleri</i>	<i>Chlorella kessleri</i>			Krienitz, L. et al. (2004) Ettl, E. and Gärtner, G. (2014)		x	
<i>Pseudochlorella cf. signiensis</i>	<i>Pabia signiensis</i>			Darienko, T. et al. (2016)		x	
<i>Stichococcus allas</i>				Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Stichococcus cf. allas</i>				Ettl, E. and Gärtner, G. (2014)	x	x	

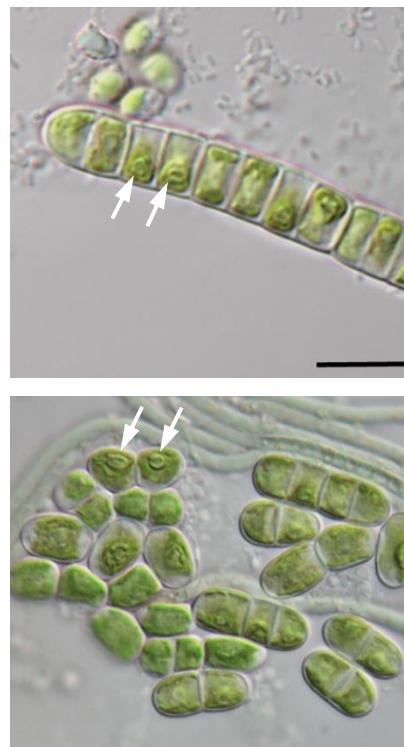
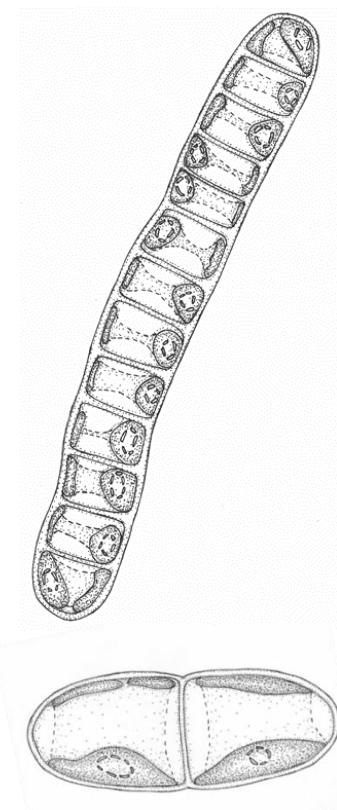
<i>Stichococcus bacillaris</i>			Ettl, E. and Gärtner, G. (2014)	x	x	London- 19a NA- 19aII
<i>Stichococcus chlorelloides</i>			Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Stichococcus exiguum</i>			Ettl, E. and Gärtner, G. (2014)	x		NA-37a

<i>Stichococcus</i> cf. <i>exiguus</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Stichococcus minutus</i>				Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Stichococcus</i> cf. <i>minutus</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Stichococcus</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	AD-24a ADC-24a Björn-24a EiE-24a NA-24a
Klebsormidiophyceae							
<i>Interfilum</i> cf. <i>massjukiae</i>				Mikhailyuk, T. et al. (2008) Rindi, F. et al. (2011) Karsten, U., Herburger,		x	

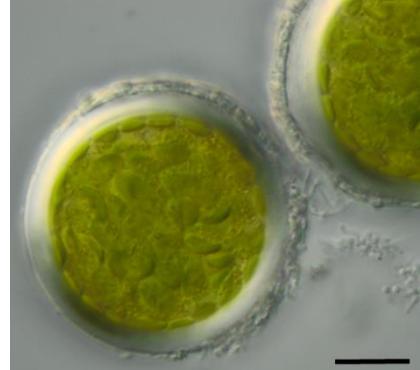
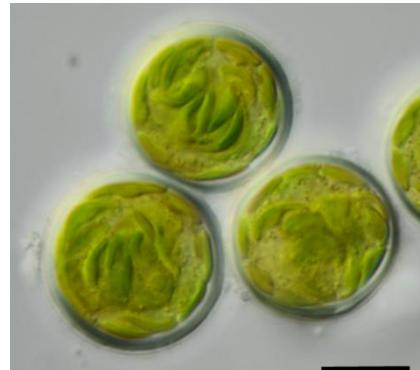
				K. and Holzinger, A. (2014)			
<i>Interfilum</i> sp.				Mikhailyuk, T. et al. (2008) Rindi, F. et al. (2011) Ettl, E. and Gärtner, G. (2014) Karsten, U., Herburger, K. and Holzinger, A. (2014)	x	x	ADC-12a D-S-12a D-S-12b D-S-12c Geo-12a
<i>Klebsormidium</i> cf. <i>crenulatum</i>				Rindi, F. et al. (2011) Ettl, E. and Gärtner, G. (2014) Mikhailyuk, T. et al. (2014)	x		Björn-11a Hinter- 11aII

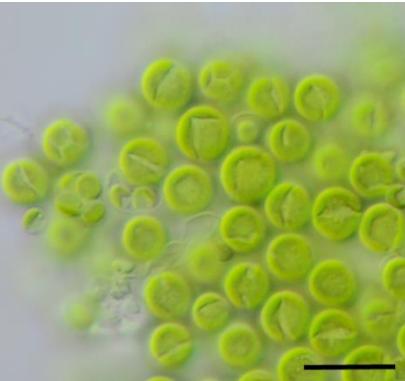
<i>Klebsormidium cf. dissectum</i>		 	Rindi, F. et al. (2011) Ettl, E. and Gärtner, G. (2014) Mikhailyuk, T. et al. (2014)	x	x	EiE-15a Hinter-15a
<i>Klebsormidium cf. flaccidum</i>			Ettl, E. and Gärtner, G. (2014) Mikhailyuk, T. et al. (2014)	x	x	
<i>Klebsormidium cf. klebsii</i>			Rindi, F. et al., (2011)	x		

				Ettl, E. and Gärtner, G. (2014)			
<i>Klebsormidium cf. montanum</i>				Rindi, F. et al. (2011) Ettl, E. and Gärtner, G., (2014)	x	x	
<i>Klebsormidium cf. nitens</i>				Ettl, E. and Gärtner, G. (2014) Mikhailyuk, T. et al. (2014)	x	x	AD-16a
<i>Klebsormidium cf. subtile</i>				Ettl, E. and Gärtner, G. (2014)	x		AD-14a EiE-14a

<i>Klebsormidium</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	AD-17a
<i>Klebsormidium</i> sp. (G-Clade)				Rindi, F. et al. (2011) Mikhailuk, T. et al. (2014)	x	x	
Zygnematophyceae							
<i>Actinotaenium</i> sp.				Ettl, E. and Gärtner, G. (2014)		x	

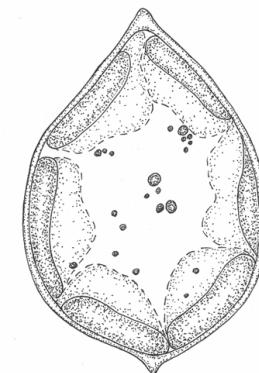
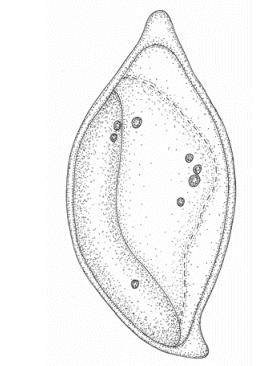
<i>Cylindrocystis crassa</i>				Ettl, E. and Gärtner, G. (2014)	x		
Eustigmatophyceae							
<i>Eustigmatos vischeri</i>				Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Eustigmatos cf. vischeri</i>				Ettl, E. and Gärtner, G. (2014)		x	
Xanthophyceae							

<i>Botrydiopsis intercedens</i>	<i>Botrydiopsis alpina</i>	  	Ettl, E. and Gärtner, G (2014)	x		NA-32aII NA-32bII
<i>Botrydiopsis arhiza</i>			Ettl, E. and Gärtner, G. (2014)	x		London- 1a Geo-1a

<i>Botrydiopsis</i> cf. <i>constricta</i>				Ettl, E. and Gärtner, G., (2014)	x		
<i>Chlorellidium</i> cf. <i>tetrabotrys</i>				Ettl, E. and Gärtner, G. (2014)		x	
<i>Chloridella</i> sp.		 		Ettl, E. and Gärtner, G. (2014)	x		

<i>Heterococcus</i> sp.			Ettl, E. and Gärtner, G. (2014)	x	x	Björn- 9a D-S-9a London- 9a London- 9b NA-9aII NA-9bII
<i>Monallantus</i> <i>brevicylindrus</i>			Ettl, E. and Gärtner, G. (2014)	x		
<i>Nephrodiella</i> cf. <i>phaseolus</i>			Ettl, E. and Gärtner, G. (2014)	x		
<i>Pleurochloris meiringensis</i>			Ettl, E. and Gärtner, G. (2014)	x	x	NA- 22aII

<i>Pleurochloris pseudopolychloris</i>				Ettl, E. and Gärtner, G. (2014)	X	X	AD-21a
<i>Pleurochloris polychloris</i>				Ettl, E. and Gärtner, G. (2014)	X		

<i>Pleurogaster lunaris</i>		 	 	Ettl, E. and Gärtner, G. (2014)	X	X	
<i>Tribonema viride</i>				Ettl, E. and Gärtner, G. (2014)	X		

<i>Tribonema vulgare</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Tribonema</i> sp.				Ettl, E. and Gärtner, G. (2014)	x		
<i>Xanthonema</i> cf. <i>debile</i>				Ettl, E. and Gärtner, G. (2014)	x	x	AD-28a
<i>Xanthonema solidum</i>				Ettl, E. and Gärtner, G. (2014)	x	x	
<i>Xanthonema</i> cf. <i>solidum</i>				Ettl, E. and Gärtner, G. (2014)	x		NA- 25aII

<i>Xanthonema exile</i>				Ettl, E. and Gärtner, G. (2014)	x		
<i>Xanthonema</i> sp.				Ettl, E. and Gärtner, G. (2014)	x	x	ADC-26a NA-26aII